

1 CLAIMS
2

3 1. Apparatus including

4 a disk drive housing defining a volume large enough to include an ATA
5 disk drive therein, said disk drive housing having a form factor and electrical interface
6 compatible with a fiber channel disk drive housing;7 an adaptor in said housing, said adaptor including an ATA disk drive
8 coupling element and at least two fiber channel backplane coupling elements; and9 a programmable switch coupled to said fiber channel backplane coupling
10 elements;11 whereby an ATA disk drive is capable of being coupled to a fiber channel
12 backplane using at least one of two paths, a selection of one of said two paths being in
13 response to said programmable switch.14
15 2. Apparatus as in claim 1, including a serial-to-parallel converter,
16 said serial-to-parallel converter being within said disk drive housing and coupled to
17 said ATA disk drive coupling element, wherein said serial-to-parallel converter is capa-
18 ble of receiving a set of serial ATA disk drive signals and emitting a set of parallel ATA
19 disk drive signals.20
21 3. Apparatus as in claim 1, wherein each of said fiber channel back-
22 plane coupling elements includes an port capable of being coupled to a power source,

1 whereby said ATA disk drive coupling is capable of receiving input power from a se-
2 lectable source.

3

4 4. Apparatus as in claim 1, wherein said switch includes an input port
5 capable of receiving instructions, said instructions being interpretable by a computing
6 device to control said switch.

7

8 5. Apparatus including
9 a disk drive housing including an ATA disk drive, said disk drive housing
10 having a form factor and electrical interface compatible with a fiber channel disk drive
11 housing;

12 an adaptor in said housing, said adaptor including an ATA disk drive
13 coupling element coupled to said ATA disk drive, and at least two fiber channel back-
14 plane coupling elements; and

15 a switch coupled to said fiber channel backplane coupling elements, said
16 switch being capable of being coupled to a switching signal.

17

18 6. Apparatus as in claim 5, including a serial-to-parallel converter,
19 said serial-to-parallel converter being within said disk drive housing and coupled to
20 said ATA disk drive coupling element, wherein said serial-to-parallel converter is capa-
21 ble of receiving a set of serial ATA disk drive signals and emitting a set of parallel ATA
22 disk drive signals.

1

2 7. Apparatus as in claim 5, wherein each of said fiber channel back-
3 plane coupling elements includes an port capable of being coupled to a power source,
4 whereby said ATA disk drive is capable of receiving input power from a selectable
5 source.

6

7 8. Apparatus as in claim 5, wherein said switch includes an input port
8 capable of receiving instructions, said instructions being interpretable by a computing
9 device to control said switch.

10

11 9. Apparatus including
12 a disk drive housing including an ATA disk drive, said disk drive housing
13 having a form factor and electrical interface compatible with a fiber channel disk drive
14 housing;

15 an adaptor in said housing, said adaptor including an ATA disk drive
16 coupling element coupled to said ATA disk drive, and at least two fiber channel back-
17 plane coupling elements; and

18 a first switch coupled to said fiber channel backplane coupling elements,
19 said first switch being capable of being coupled to a switching signal;

20 a first path from said first switch to said ATA disk drive, said first path in-
21 cluding a serial-to-parallel converter, wherein said serial-to-parallel converter is capable

1 of receiving a set of serial ATA disk drive signals and emitting a set of parallel ATA
2 disk drive signals;

3 a second path from said first switch to said ATA disk drive, wherein said
4 second path is capable of receiving a set of ATA disk drive signals and emitting a set of
5 serial ATA disk drive signals; and

6 a second switch coupled to said first path and said second path, said sec-
7 ond switch being capable of selecting a connection to said ATA disk drive using either
8 said first path or said second path.

9

10 10. Apparatus as in claim 9, wherein each of said fiber channel back-
11 plane coupling elements includes an port capable of being coupled to a power source,
12 whereby said ATA disk drive is capable of receiving input power from a selectable
13 source.

14

15 11. Apparatus as in claim 9, wherein said first switch includes an input
16 port capable of receiving instructions, said instructions being interpretable by a com-
17 puting device to control said first switch.

18

19 12. Apparatus as in claim 9, wherein said second switch includes an
20 input port capable of receiving instructions, said instructions being interpretable by a
21 computing device to control said second switch.

22

1 13. Apparatus as in claim 9, wherein said second switch is capable of
2 being coupled to a second switching signal.

3

4 14. Apparatus including
5 a first housing including (a) a first ATA disk drive, said first housing
6 having a form factor and electrical interface compatible with a fiber channel disk drive
7 housing, (b) a first adaptor in said first housing, said first adaptor including an ATA
8 disk drive coupling element coupled to said first ATA disk drive, and at least two fiber
9 channel backplane coupling elements, and [c] a switch coupled to said fiber channel
10 backplane coupling elements in said first housing, said switch being capable of being
11 coupled to a switching signal;

12 a second housing including (a) a second ATA disk drive, said second
13 housing having a form factor and electrical interface compatible with a fiber channel
14 disk drive housing, (b) a second adaptor in said second housing, said second adaptor
15 including an ATA disk drive coupling element coupled to said second ATA disk drive,
16 and at least two fiber channel backplane coupling elements, and (c) a switch coupled to
17 said fiber channel backplane coupling elements in said second housing, said switch be-
18 ing capable of being coupled to a switching signal;

19 a fiber channel backplane coupled to said first housing and to said second
20 housing.

21

22 15. Apparatus as in claim 14,

1 wherein said first ATA disk drive includes a parallel ATA disk drive cou-
2 pling element and said second ATA disk drive includes a serial ATA disk drive cou-
3 pling element;

4 and including a serial-to-parallel converter in said first housing, said se-
5 rial-to-parallel converter being coupled to said parallel ATA disk drive coupling ele-
6 ment.

7

8 16. Apparatus as in claim 14, wherein each of said fiber channel back-
9 plane coupling elements includes an port capable of being coupled to a power source,
10 whereby each of said ATA disk drives is capable of receiving input power from a se-
11 lectable source.

12

13 17. Apparatus as in claim 14, wherein either said first switch or said
14 second switch includes an input port capable of receiving instructions, said instructions
15 being interpretable by a computing device to control either said first switch or said sec-
16 ond switch.

17

18 18. Apparatus including
19 an ATA disk drive coupling element;
20 at least two fiber channel backplane coupling elements; and
21 a programmable switch coupled to said fiber channel backplane elements;

1 whereby an ATA disk drive is capable of being coupled to a selected one
2 of said at least two fiber channel backplane coupling elements in response to said
3 switch.

4

5 19. Apparatus as in claim 18, including a serial-to-parallel converter,
6 said serial-to-parallel converter being within said disk drive housing and coupled to
7 said ATA disk drive coupling element, wherein said serial-to-parallel converter is capa-
8 ble of receiving a set of serial ATA disk drive signals and emitting a set of parallel ATA
9 disk drive signals.

10

11 20. Apparatus as in claim 18, wherein each of said fiber channel back-
12 plane coupling elements includes an port capable of being coupled to a power source,
13 whereby said ATA disk drive coupling is capable of receiving input power from a se-
14 lectable source.

15

16 21. Apparatus as in claim 18, wherein said switch includes an input
17 port capable of receiving instructions, said instructions being interpretable by a com-
18 puting device to control said switch.

19

20 22. Apparatus including
21 an ATA disk drive coupling element capable of being coupled to an ATA
22 disk drive, said ATA disk drive coupling element and said ATA disk drive being dis-

1 posable within a disk drive housing having a form factor and electrical interface com-
2 patible with a fiber channel disk drive housing;
3 at least two fiber channel backplane coupling elements;
4 a switch coupled to said fiber channel backplane coupling elements, said
5 switch being capable of being coupled to a switching signal.

6

7 23. Apparatus as in claim 22, including a serial-to-parallel converter,
8 said serial-to-parallel converter being within said disk drive housing and coupled to
9 said ATA disk drive coupling element, wherein said serial-to-parallel converter is capa-
10 ble of receiving a set of serial ATA disk drive signals and emitting a set of parallel ATA
11 disk drive signals.

12

13 24. Apparatus as in claim 22, wherein each of said fiber channel back-
14 plane coupling elements includes an port capable of being coupled to a power source,
15 whereby said ATA disk drive is capable of receiving input power from a selectable
16 source.

17

18 25. Apparatus as in claim 22, wherein said switch includes an input
19 port capable of receiving instructions, said instructions being interpretable by a com-
20 puting device to control said switch.

21

22 26. Apparatus including

1 an ATA disk drive coupling element capable of being coupled to an ATA
2 disk drive within a disk drive housing having a form factor and electrical interface
3 compatible with a fiber channel disk drive housing;
4 at least two fiber channel backplane coupling elements;
5 a first switch coupled to said fiber channel backplane coupling elements,
6 said first switch being capable of being coupled to a switching signal;
7 a first path from said first switch to said ATA disk drive coupling element,
8 said first path including a serial-to-parallel converter, wherein said serial-to-parallel
9 converter is capable of receiving a set of serial ATA disk drive signals and emitting a set
10 of parallel ATA disk drive signals;
11 a second path from said first switch to said ATA disk drive coupling ele-
12 ment, wherein said second path is capable of receiving a set of ATA disk drive signals
13 and emitting a set of serial ATA disk drive signals; and
14 a second switch coupled to said first path and said second path, said sec-
15 ond switch being capable of selecting a connection to said ATA disk drive using either
16 said first path or said second path.

17
18 27. Apparatus as in claim 26, wherein each of said fiber channel back-
19 plane coupling elements includes an port capable of being coupled to a power source,
20 whereby said ATA disk drive coupling element is capable of receiving input power
21 from a selectable source.

22

1 28. Apparatus as in claim 26, wherein said first switch includes an in-
2 put port capable of receiving instructions, said instructions being interpretable by a
3 computing device to control said first switch.

4

5 29. Apparatus as in claim 26, wherein said second switch includes an
6 input port capable of receiving instructions, said instructions being interpretable by a
7 computing device to control said second switch.

8

9 30. Apparatus as in claim 26, wherein said second switch is capable of
10 being coupled to a second switching signal.